

REMARKS

By way of the present response, claims 42, 89, 92, 95, 100 and 103 are amended. Support for the amendments is found in originally filed Figure 2, and in the specification, at pages 4 and 13 to 15, for example. Claims 42 and 87-106 currently are pending.

Before proceeding with a detailed analysis of the objections and rejections, the undersigned notes with appreciation the courtesies extended by Examiner Padgett throughout the personal interview conducted on August 28, 2006. The subject matter discussed during the interview mainly centered on whether claim amendments similar to those presented above would overcome the rejections based on Section 112, first and second paragraph. It is believed the presently amended claims are consistent with what the Examiner appeared to agree would overcome these rejections, as set forth in Sections 2 and 4 of the Office Action.

Section 3 of the Office Action includes an objection to the disclosure for containing a number of informalities. It appears that the Office's scan of the originally filed specification is of poor quality, which renders some of the text noted by the Examiner unreadable, or that some text may be missing altogether. However, the scanned version of the specification currently is not available to Applicants via the PAIRS database. Thus, other than the specific instances of textual ambiguities noted in the Action, it is not known which parts of the specification might cause additional problems when the application is prepared for issuance. If providing a clean copy of the specification would address any other issues that might arise during the printing of the patent, the Examiner is urged to contact the undersigned and request such a copy.

Turning now to the rejections, section 2 of the Action includes a rejection of claims 42, 87-88 and 92-106 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. The Examiner contends, with respect to claim 42, "the limitation of generating a plasma in the 'form of a plane' where no orientation if this plane is required, nor is it required for the substrate to ever pass-through or be touched by this plane, is generically supported by original claim 1, but support for being able to form a diamond-like-carbon (DLC) coating under this breadth of conditions is not seen to be discussed (note that original claim 8 requires that the substrate be moved through the plasma), nor considering figure 2 & discussion of the technique depicted therein in examples 1 & 2, there was not found to be support/enablement for use of plasmas in the form of a plane in the scope claimed, such that it encompasses plasmas for example that form a plane parallel

to the substrate. For these reasons it appears that these new limitations/new claims are so broad as to encompass New Matter ...” (see, the penultimate line of page 2 to line 7 of page 3). While Applicants dispute with any allegation that the claim 42, or any other pending claim, includes new matter, the claims are amended herein to recite features which impart orientation. For example, each of claims 42 and 89 recite, among other features, “generating a plasma in a form of plane substantially perpendicular to a substrate.” During the interview, the Examiner appeared to agree that such an amendment would render moot the rejection under 112, first paragraph. Similar subject matter relating to sheet beam plasma extending perpendicularly from a first electrode toward a second electrode of the plasma is now recited in claims 92 and 100, and thus the rejection of these claims also is believed rendered moot.

The Office Action also includes a rejection of claims 42, 87-89, 90 and 92-106 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. The Examiner objects to the limitation, “a plasma in the form of a plane,” based on a strict mathematical definition of a plane being a two-dimensional construct having no depth or thickness. However, it is axiomatic that claims are to be read, not in a vacuum, but in light of the specification, and furthermore, that Applicants can be their own lexicographer when describing their invention. When viewing Figure 2, for example, plasma is shown generally in the form of a plane. During the interview, the Examiner appeared to agree that when viewed in light of the specification, claimed features relating to a plane, as recited in claims 42 and 89, are definite.

The Examiner also objected to the use of the modifiers “like” and “type” in claims 92 and 100. In response, claims 92 and 100 have been amended to remove these modifiers. More particularly, claims 92 and 100 now recite that the plasma is “sheet beam plasma.” It is respectfully submitted that these features are definite.

For at least these reasons, it is believed the present amendments either render moot or overcome the rejections under 35 U.S.C. § 112, first and second paragraphs.

Starting in Section 5, at page 5, claims 42 and 87-106 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of U.S. Patent No. 6,001,432 (hereinafter, “the ‘432 patent”) in view of Applicant’s description of the prior art on pages 2-4 or Takahashi et al. (U.S. Patent No. 5,104,685). In response, Applicants will shortly submit a terminal disclaimer to obviate the rejection based on the ‘432 patent. In view of the impending terminal disclaimer, it is requested that the Examiner hold this rejection in abeyance.

The Action also include rejections under the judicially created doctrine of obviousness-type double patenting, of claims 42 and 87-106 as allegedly being unpatentable over claims 1-68 of U.S. Patent No. 6,183,816 (hereinafter, “the ‘816 patent”), and of claims 42 and 87-106 as being unpatentable over claims 1-17 of U.S. Patent No. 5,766,696 (hereinafter, “the ‘696 patent”) in view of Applicant’s description of the prior art on pages 2-4 or Takahashi et al. However, it is respectfully submitted that none of the claims of the ‘816 and ‘696 patents, as well as Applicant’s description of the prior art on pages 2-4 and Takahashi et al. teach or suggest, whether considered individually or in any combination, the presently claimed combinations of features including “generating a plasma in a form of plane substantially perpendicular to a substrate for depositing the diamond-like carbon film,” as recited in claim 42, “generating a plasma in a form of plane substantially perpendicular to a substrate for depositing the diamond-like carbon film,” as recited in claim 89, and “wherein the sheet beam plasma extends perpendicularly from the first electrode toward the second electrode,” as set forth in claims 92 and 100. Accordingly, these rejections should be withdrawn.

The Action also includes a rejection of claims 42, 87 and 88 under 35 U.S.C. § 103(a) as allegedly being obvious over Takahashi et al. in view of Venkataramanan et al. (U.S. Patent No. 4,647,512). It is respectfully submitted, however, that the disclosure in these documents of plasma that is essentially tangential to a substrate surface does not teach or suggest, and in fact, appears to teach away from the features of plasma that is “substantially perpendicular,” as presently claimed. The Takahashi et al. and Venkataramanan et al. patents, therefore, do not suggest a shape or a form of plasma as claimed. Accordingly, this rejection should be withdrawn.

Finally, claims 42 and 87-106 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting, as being unpatentable over claims 42-44, 53-58, 60-62 and 64-69 of co-pending Application No. 09/438,581 in view of Applicant’s description of the prior art on pages 2-4 or Takahashi et al. The cited U.S. Patent Application No. 09/438,581 is currently pending. In view all the above reasons, and MPEP § 804(I)(B)(1), it is respectfully requested that the Examiner withdraw this rejection after receiving the above mentioned terminal disclaimer with respect to the ‘432 patent and permit the instant application to issue as a patent.

Based on the forgoing, it is respectfully submitted that this application is in condition for allowance. Prompt notification of the same is earnestly solicited.

Respectfully submitted,

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